

METHODS AND APPARATUS FOR PROVIDING MULTIPLE WIRELESS COMMUNICATION SERVICES HAVING DIFFERENT BIT RATES

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Abstract of the Disclosure

A communication system provides multiple wireless services, each potentially having a different information bit rate. A transmitter (400, FIG. 4) encodes (504, FIG. 5) relatively low rate data (430, FIG. 4) using code division multiple access (CDMA). The resulting spread data stream(s) (436, FIG. 4) are multiplexed and modulated (506, 508, FIG. 5) along with relatively high information rate, non-encoded data streams (440, FIG. 4) using a time division multiple access/frequency division multiple access (TDMA/FDMA) protocol. In other embodiments, the methods and apparatus of the present invention can be used in a CDMA only system, or in a system using a time division multiplexing/FDMA and time division multiplexing/CDMA. In one embodiment, the spread data streams are transmitted in timeslots (211-214, FIG. 2) and frequencies (201-204, FIG. 2) that are interspersed between timeslots and frequencies used for the high rate data. A receiver (600, FIG. 6) performs complementary demodulation (704, FIG. 7), demultiplexing (706, FIG. 7), and decoding (710, FIG. 7).